Patent Claims

1. A method for determining a steering torque acting when a steering wheel is activated in motor vehicles, in particular in motor vehicles which are driven on steered wheels, characterized in that the interference torque component (M_stör), based on interfering influences, of the steering torque (M_ist) is determined and the steering torque (M_ist) with reduced interference force is generated by means of a torque generator (108, 208).

2. The method as claimed in claim 1, characterized in that the steering torque (M_ist) with reduced interference force is determined in such a way that it is at least largely free of interference force.

3. The method as claimed in claim 1 or 2, characterized in that the interference torque component (M_stör) is determined from wheel forces (101, 102, 103, 201).

4. The method as claimed in claim 3, characterized in that the interference torque (M_stör) is determined from at least one of the forces comprising wheel circumferential forces (101), wheel normal forces (102) and wheel lateral forces (103).

5. The method as claimed in one of claims 3 or 4, characterized in that the wheel forces (101, 102, 103, 201) are determined using an observer.

6. The method as claimed in one of claims 3 to 5, characterized in that the wheel forces (101, 102, 103, 201) are determined using variables which are measured

by means of sensors or which are determined in the vehicle, in particular variables from the set comprising steering angle, yaw rate, vehicle speed, lateral acceleration, wheel speeds, wheel brake pressures and drive torque.

7. The method as claimed in one of the preceding claims, characterized in that the interference torque component (M_stör) is determined from wheel forces (101, 102, 103, 201) and measured variables, wherein in particular a model, preferably an observer, or at least one characteristic diagram is used for this purpose.

8. The method as claimed in one of claims 2 to 7, characterized in that steering torque (M_ist) which acts on the steering wheel is reduced by the interference torque.

9. The method as claimed in one of the preceding claims, characterized in that a setpoint steering torque (M_soll) which is free of influence from an interference force is determined from variables.

10. The method as claimed in claim 9, characterized in that the setpoint steering torque (M_soll) which is free of influence from an interference force is determined by means of a model, in particular an observer, wherein in particular variables from the set of steering angle, yaw rate, vehicle speed, lateral acceleration, wheel speeds, wheel brake pressures and drive torque are used.

11. The method as claimed in one of claims 9 or 10, characterized in that a steering torque which is to be generated and an interference torque component (M_stör) for generating the steering torque are fed to the torque generator (108, 208).

12. The method as claimed in one of the preceding claims, characterized in that, in order to determine the interference torque component (M_stör), a driving situation is derived from variables and the interference torques (M_stör) are derived as a function of the driving situation.

13. The method as claimed in one of the preceding claims, characterized in that an actual torque (M_ist) of the steering torque is sensed and a steering torque which is free of interference torque is applied on the basis of the actual torque (M_ist) and the interference torque component (M_stör) which is determined.

14. The method as claimed in one of claims 1 to 12, characterized in that an actual torque (M_ist) of the steering torque is sensed and a steering torque (M_ist) which is free of interference torque is applied on the basis of the actual torque (M_ist) and the setpoint torque (M_soll) which is free of influence from an interference torque.

15. The method as claimed in claim 13 or 14, characterized in that stochastic oscillation excitations of steered wheels are determined as interference torque components (M_stör).

16. A motor vehicle having a steering wheel for the driver to predefine a steering angle, and a torque generator for applying a steering torque to the steering wheel, characterized in that the steering torque is determined as claimed in one of the preceding claims.